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PATENT ABSTRACTS OF JAPAN

61156788

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SEMICONDUCTOR LASER

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ENGLISH-ABST:

PURPOSE: To secure a confinement of carriers and to obtain the thermally stable characteristics of a semiconductor laser by a method wherein two layers of clad layers having the prescribed forbidden band width are provided in contact to the active layer and optical oozing layers are provided one by one in these clad layers.

CONSTITUTION: A first clad layer 2 having the same conductive type as that of an N-type substrate 1, an active layer 3, a second P-type clad layer 4 and a P-type gap layer 5 are provided on the N-type substrate 1. A first optical oozing layer 21 and a second optical oozing layer 22, which ooze out from the layer 3 having the same conductive type as that of the layer 2 and the layer 4, are respectively provided in the layer 2 and the layer 4. In this case, the difference ΔE_g in energy band gap between the layer 3 and the layer 2 and between the layer 3 and the layer 4 are both selected in the condition of $0.35 - \Delta E_g - 0.45 \text{ eV}$. By this way, a thermal oozing of carriers can be suppressed. Accordingly, the dependency of the threshold current of the laser on heat can be lessened and the stabilization of the characteristics thereof can be contrived.